

CLAIMS

1. A component for producing polymer mixtures from thermoplasticized starch and a hydrophobic polymer, e.g. polyvinyl acetate, characterized in that the component contains organosilicates with a largely homogeneous structure consisting of partially saponified polyvinyl acetate and alkali silicate solution, further reaction products prepared in situ, and residues of the catalyst employed in its preparation.

2. A process for producing a component consisting of polyvinyl acetate and alkali silicate such as, in particular alkali water glass such process being carried out with intensive thorough mixing and shearing, elevated temperature and increased pressure, for producing polymer mixtures from thermoplasticized starch and a hydrophobic polymer such as, in particular polyvinyl acetate, characterized in that the polyvinyl acetate is hydrolyzed and saponified in the presence of a catalyst with continuous addition of basically reacting compounds and of the alkali silicate.

3. The process according to claim 2, characterized in that the polyvinyl acetate is presaponified with basically

reacting compounds up to a degree of hydrolysis of 10% to 40%, preferably 20% to 30%, and subsequently finally saponified to a degree of hydrolysis of between 50% and 100%, preferably between 60% and 90%, preferably 70% to 80%.

4. The process according to claim 2, characterized in that a slightly alkaline organosilicate with a pH of about 7 to 8.5 is built up from the polyvinyl acetate and the water glass, starting with a pH of 9 to 10.

5. The process according to claim 2, characterized in that a hydroxide is added together with the alkaline water glass or before the latter is added.

6. The process according to claim 5, characterized in that calcium hydroxide is added to the polyvinyl acetate until a degree of saponification of between 10% and 40%, preferably of 20% to 30% has been reached.

7. The process according to claim 2, characterized in that as catalyst, low-molecular hydroxy compounds such as low-molecular alcohols (methanol, ethanol) and/or polyhydroxyl

compounds of the type ethylene glycol, diethylene glycol, triethylene glycol or glycerol are added individually or in mixture.

8. The process according to claim 2, characterized in that the totality of the catalyst compounds added does not exceed an amount of 0.5% to 20%, preferably 5% to 17%, particularly 10% to 15% based on the mass of the polyvinyl acetate.

9. The process according to claim 8, characterized in that in the batch process, polyvinyl acetate is loaded first in the form of an aqueous suspension, heated to the reaction temperature of 100°C to 160°C, preferably 120° to 150°C, preferably 140°; the basically reacting compound is metered in continuously for presaponification; and the alkaline water glass solution is metered in at reaction temperature after the desired degree of saponification has been reached.

10. The process according to claim 2, characterized in that the mixing ratio of polyvinyl acetate to alkali silicate expressed in mass proportions of the solid material is in the range of 50 : 50 to 80 : 80, preferably 65 : 35 to 75 : 25.

11. The process according to claim 2, characterized in that instead of the alkali silicate solution, sodium disilicate and a hydroxide are used at least partially.

12. The process according to claim 2, characterized in that one or a plurality of polyfunctional silanes are added to the reaction batch or to the component.

13. The process according to claim 12, characterized in that the silane mass proportion amounts to 3 to 15% of the amount of silane introduced with the alkali silicate solution.

14. The process according to claim 2, characterized in that native starch is added to the reaction batch or to the component.

15. The process according to claim 14, characterized in that 5 to 15% native starch is added based on the mass of the polyvinyl acetate.

16. The process according to claim 14, characterized in that vinyl acetate is added together with the starch.

17. The process according to claim 16, characterized
in that 0.5 to 1.5% vinyl acetate is added based on
the mass of the polyvinyl acetate.

add
Al
Acet

65307-2550450